

REMARKS

A. Background

Claims 51-80 were pending in the application at the time of the Office Action with claims 61, 62 and 73 having been withdrawn. Claims 51-60, 63-72 and 74-80 were rejected as being obvious over cited art. By this response applicant has not cancelled or amended any pending claims. As such, claims 51-80 are again presented for the Examiner's consideration in light of the following remarks.

B. Rejections Based on 35 USC § 103

1. Rejections based on the combination of Curry and Watling

Paragraphs 2 and 3 of the Office Action reject claims 51-55, 57-59, 63, 65, 66, 70, 72 and 74-80 under 35 USC § 103(a) as being obvious over U.S. Patent No. 5,480,615 to Curry ("*Curry*") in view of PCT Publication No. WO 00/74734 to Watling ("*Watling*"). Specifically, the Office Action concedes that *Curry* fails to disclose using flash evaporation to introduce the sterilant as well as using hydrogen peroxide as the sterilant. See Office Action at page 4. The Office Action then cites to *Watling* to remedy this shortcoming of *Curry*, asserting that *Watling* discloses "a method of decontaminating an enclosed space by flash evaporating ... the sterilant," and referring to page 5, lines 20-30 of *Watling* in support.. Office Action at page 4.

Applicant respectfully traverses this rejection and submits that, contrary to the assertion of the Office Action, *Watling* does not teach or suggest flash evaporating a sterilant. Of the rejected claims, claims 51 and 70 are independent claims.

The section of *Watling* cited by the Office Action discloses that a volumetric flow is measured before the air or air gas mixture is passed to the evaporation chamber where more of the gas mixture is added by evaporation of the decontamination solution on a hot surface. Thus, while *Watling* appears to disclose an evaporation process, there is no mention in *Watling* that the decontaminant is flash evaporated. This is an important distinction.

As is known in the art, in the flash evaporation process droplets of a very concentrated solution of hydrogen peroxide in water are formed and allowed to fall onto a heated surface. This causes instantaneous evaporation of the droplets to form a vapor consisting of hydrogen peroxide vapor and water vapor, that is to say two separate gases. Because the droplets are evaporated instantaneously on hitting the heated surface, the concentration of hydrogen peroxide in the water

vapor formed in the atmosphere is the same as that of the liquid supplied to the evaporator. Since a highly concentrated solution of hydrogen peroxide is supplied to the evaporator, a highly concentrated vapor of hydrogen peroxide in water is formed.

As that vapor starts to cool, the vapor of hydrogen peroxide condenses first because it has a lower vapor pressure than water vapor. As a result, very concentrated hydrogen peroxide condenses on all of the surfaces in the enclosure in which the apparatus is placed, thereby condensing on any bacteria in the enclosure. Because the hydrogen peroxide is very concentrated, the bacteria absorb the vapor and are quickly killed.

By contrast, the evaporator disclosed in the *Walling* reference, at least initially, produces water vapor alone from the solution of the decontaminant and water supplied to the evaporator. As the water vapor continues to be evaporated, the solution of decontaminant in water will rise and eventually a point will be reached in which water vapor and the decontaminant are evaporated together from the evaporator. This is not the same thing as flash evaporation.

In light of the above, Applicant submits that *Walling* does not cure the deficiencies of *Curry*. That is, contrary to the assertion of the Office Action, *Walling* also fails to disclose or suggest using flash evaporation, as is required by independent claims 51 and 70. Thus, even if combined in the allegedly obvious manner set forth in the Office Action, the combination would not teach all of the claimed limitations.

Applicant further submits that it would not have been obvious to otherwise modify *Curry* to include the above limitation. *Curry* discloses an apparatus that includes a blower means 16 that is in communication with a vapor generating means 14 “for diluting and heating” the fluid generated by the vapor generating means. Column 3, lines 43-47. *Curry* further discloses that the blower conduit intersects with the vapor conduit 28 so as to draw vapor from the vapor generating means 14 and fluidly communicate with the diffuser means 18 “so as to dispense the heated and diluted vapor into the associated room.” Column 4, lines 15-22.

As such, *Curry* teaches diluting the vapor supplied to the room to be decontaminated. A simple liquid atomizing device, as suggested by *Curry*, is all that is needed to do this. There is no suggestion or motivation for one of skill in the art to replace such an atomizing device with a flash evaporation process.

In light of the above, Applicant submits that a *prima facie* case of obviousness has not been established regarding claims 51 and 70 at least because one of skill in the art would not modify *Curry* in the manner set forth in the Office Action, and because the allegedly obvious combination of *Curry* and *Watling* would not include every limitation recited in the rejected claims. Accordingly, Applicant respectfully requests that the obviousness rejection with respect to claims 51 and 70 be withdrawn.

Claims 52-55, 57-59, 63, 65, 66, 72 and 74-80 each depend from either claim 51 or claim 70 and thus incorporate the limitations thereof. As such, applicant submits that claims 52-55, 57-59, 63, 65, 66, 72 and 74-80 are distinguished over the cited art for at least the same reasons as discussed above with regard to claims 51 and 70. Accordingly, Applicant respectfully requests that the obviousness rejection with respect to claims 52-55, 57-59, 63, 65, 66, 72 and 74-80 also be withdrawn.

Furthermore, Applicant submits that many, if not all of the rejected dependent claims are independently distinguishable over the cited art. For example, claim 54 recites a further step of “measuring the condensation in the enclosed space at a number of different locations by condensation monitors to ensure that condensation has taken place throughout the enclosed space.” The Office Action cites to *Watling* as allegedly teaching this limitation. However, *Watling* only discloses a single dew point and condensation monitor that can be moved to alternate positions between decontamination cycles. As such, *Watling* fails to include a step of measuring the condensation at a number of different locations during the decontamination process.

As another example, claim 59 recites a further step of “using one or more fans within the enclosed space to disperse the hydrogen peroxide/water vapour throughout the enclosed space.” Applicant notes that claim 59 depends from claim 51, and thus incorporates the limitations thereof. As such, claim 59 requires, among other things, two separate steps of i) creating a recirculating heated air stream within an enclosed space, and ii) using one or more fans to disperse the mixture throughout the enclosed space. The Office Action asserts that the fan 38 of *Curry* corresponds to both of these steps. See Office Action at pp. 3 and 7. However, it is clear from the claim recitations of claims 51 and 59 that the fans used to disperse the mixture are different than the means for creating the heated air stream. As such, *Curry* fails to disclose both of the aforementioned steps.

2. Rejections based on further cited art

Paragraphs 4-7 of the Office Action reject claims 56, 60, 64, 67-69, and 71 under 35 USC § 103(a) as being obvious over the allegedly obvious combination of *Curry* and *Walling* in view of various other references. Specifically, claim 56 is rejected in view of U.S. Patent No. 6,589,479 to Dufresne et al. ("*Dufresne*"); claim 60 is rejected in view of Great Britain Publication No. GB 2 360 454 to Martin ("*Martin*"); claims 64, 67, and 68 are rejected in view of U.S. Patent No. 5,173,258 to Childers ("*Childers*"); and claims 69 and 71 is rejected in view of U.S. Patent No. 4,244,712 to Tongret ("*Tongret*"). *Dufresne* is merely cited for allegedly disclosing using biological indicators to determine when the predetermined concentration of hydrogen peroxide/water vapor in the atmosphere has been reached. *Martin* is merely cited for allegedly disclosing using a recited percentage of hydrogen peroxide solution. *Childers* is merely cited for allegedly disclosing using a heating/ventilation air conditioning system to remove the hydrogen peroxide and to dehumidify the atmosphere within the enclosure. *Tongret* is merely cited for allegedly disclosing using a filter for filtering air entering a duct.

Applicant submits that inasmuch as the rejections of claims 56, 60, 64, 67-69, and 71 rely on the purportedly obvious combination of *Curry* and *Walling* advanced by the Office Action in connection with the rejection of claims 51-55, 57-59, 63, 65, 66, 70, 72 and 74-80, the rejection of claims 56, 60, 64, 67-69, and 71 lacks an adequate basis for at least the same reasons as discussed above with regard to claims 51-55, 57-59, 63, 65, 66, 70, 72 and 74-80. As such, Applicant respectfully requests that the obviousness rejections of claims 56, 60, 64, 67-69, and 71 be withdrawn.

No other objections or rejections are set forth in the Office Action.

C. Conclusion

Applicant notes that this response does not discuss every reason why the claims of the present application are distinguished over the cited art. Most notably, applicant submits that many if not all of the dependent claims are independently distinguishable over the cited art. Applicant has merely submitted those arguments which it considers sufficient to clearly distinguish the claims over the cited art.

In view of the foregoing, applicant respectfully requests the Examiner's reconsideration and allowance of claims 51-60, 63-72 and 74-80 as amended and presented herein.

The Commissioner is hereby authorized to charge payment of any of the following fees that may be applicable to this communication, or credit any overpayment, to Deposit Account No. 23-3178: (1) any filing fees required under 37 CFR § 1.16; (2) any patent application and reexamination processing fees under 37 CFR § 1.17; and/or (3) any post issuance fees under 37 CFR § 1.20. In addition, if any additional extension of time is required, which has not otherwise been requested, please consider this a petition therefor and charge any additional fees that may be required to Deposit Account No. 23-3178.

In the event there remains any impediment to allowance of the claims which could be clarified in a telephonic interview, the Examiner is respectfully requested to initiate such an interview with the undersigned.

Dated this 27th day of July 2009.

Respectfully submitted,

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